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[Title of the Invention] Mobile Telephone

[Claims]

[Claim 1] A mobile telephone for giving a print order based on digital image information, comprising:

 a memory for storing digital image information to be printed; and

 order request information creating means for creating order request information including print condition information for specifying a print condition of the digital image information,

 wherein an access can be given to an order receiving server for receiving a print order through a network and the digital image information to be printed which are stored in the memory and the order request information created by the order request information creating means are transmitted to the order receiving server.

[Claim 2] A mobile telephone for giving a print order based on digital image information, comprising:

 a memory for storing digital image information to be printed; and

 order request information creating means for creating order request information including print condition information for specifying a print condition of the image information and receipt information for

specifying a method of receiving a created print,

wherein an access can be given to an order receiving server for receiving a print order through a network and the digital image information to be printed which are stored in the memory and the order request information created by the order request information creating means are transmitted to the order receiving server.

[Claim 3] The mobile telephone according to claim 2, wherein the receiving method includes receipt at a print service shop and delivery to a delivery destination which is previously specified.

[Claim 4] The mobile telephone according to claim 3, wherein the print service shop included in the receiving method is selected from a plurality of print service shops capable of carrying out receipt which are presented by the order receiving server.

[Claim 5] The mobile telephone according to claim 4, wherein a plurality of print service shops capable of carrying out receipt which are presented by the order receiving server are located in predetermined regions based on information about a position of the mobile telephone.

[Claim 6] The mobile telephone according to any of claims 1 to 5, wherein the print condition information includes at least one of a printing method, a print size and the

number of prints for the digital image information.

[Claim 7] The mobile telephone according to claim 6, wherein the printing method includes specification of a print medium.

[Claim 8] The mobile telephone according to any of claims 1 to 7, wherein the order request information creating means displays an image based on the digital image information on the mobile telephone and then creates the print condition information.

[Claim 9] The mobile telephone according to any of claims 1 to 8, wherein the order request information creating means can create the print condition information before giving an access to the order receiving server and serves to present a print charge after creating the print condition information

[Claim 10] The mobile telephone according to any of claims 1 to 9, wherein the order request information further includes a method of settling a print charge.

[Claim 11] The mobile telephone according to claim 10, wherein the settling method includes payment added to a telephone charge, payment for receipt at a receiving destination, and payment for delivery at a specified delivery destination.

[Claim 12] The mobile telephone according to any of claims 1 to 11, wherein the order request information further

includes saving specifying information of transmitted digital image information.

[Claim 13] The mobile telephone according to claim 12, wherein the saving specifying information serves to specify saving in the order receiving server or another server or saving in a portable recording medium.

[Detailed Description of the Invention]

[0001]@@

[Industrial Field of Application]

[0002]@@

[0003]

On the other hand, there has also been proposed image transfer using a mobile telephone (including a PHS) at a moving destination with the rapid spread of the mobile telephone, an enhancement in a communicating speed and a reduction in a communication charge.

[0004]

[Problems that the Invention is to Solve]

One of features of the digital camera is that a photographed image can be confirmed at any time, and therefore, it is a matter of course that a request for immediately acquiring the confirmed image print is also given. As described above, however, a print order based on a digital image is to be given by bringing to a service shop or by means of a personal computer at home. Therefore,

it is impossible to satisfy the request for immediately acquiring an image print.

[0005]@@

[0006]

[Means for Solving the Problems]

A mobile telephone of the invention for giving a print order based on digital image information, has: a memory for storing digital image information to be printed; and order request information creating means for creating order request information including print condition information for specifying a print condition of the digital image information, wherein an access can be given to an order receiving server for receiving a print order through a network and the digital image information to be printed which are stored in the memory and the order request information created by the order request information creating means are transmitted to the order receiving server.

[0007]

A mobile telephone of the invention for giving a print order based on digital image information, has: a memory for storing digital image information to be printed; and order request information creating means for creating order request information including print condition information for specifying a print condition

of the image information and receipt information for specifying a method of receiving a created print, wherein an access can be given to an order receiving server for receiving a print order through a network and the digital image information to be printed which are stored in the memory and the order request information created by the order request information creating means are transmitted to the order receiving server.

[0008]

[Mode for Carrying Out the Invention]

Embodiments of the invention will be described below with reference to Figs. 1 to 6.

[0009]

(First Embodiment)

Fig. 1 is a diagram showing the schematic structure of an example of a mobile telephone capable of giving a print order of the invention. A mobile telephone 1 has a call processing section 18 for carrying out an ordinary call processing, a communicating section 17, an antenna section 19, and furthermore, a receipt processing section 10 for carrying out a print order receipt processing. Since the call processing section 18 and the communicating section 17 are the same as those of the conventional art, detailed description will be omitted.

[0010]

The receipt processing section 10 includes an interface section 11 for inputting digital image data from an image recording medium 2, an input section 12 for causing a user to input an operation, a communication interface section 13 for inputting and outputting data together with the communicating section 17, a display section 14, a storage section 16 and a control section 15. The control section 15 serves to control the whole print order receipt processing, and is mainly constituted by a processor for executing a processing according to a program stored in the storage section 16. The processor constituting the input section 12, the display section 14, the storage section 16 and the control section 15 can be shared with that of the call processing section 18. Moreover, the image recording medium 2 is varied according to the manufacturer or type of a digital camera. Therefore, the interface section 11 has such a structure as to be connected to plural kinds of image recording media.

[0011]

When ordering prints utilizing the mobile telephone 1, a digital image to be printed are read into storage section 16, then create order request information including print condition for specifying a print condition for each digital image by utilizing input section 12,

display section 14 and control section 15. The mobile telephone 1 transmits a digital image information and an order request information through a communication section. If the mobile telephone 1 is capable of directly transmitting image information read from the image recording medium 2, image information is not necessarily recorded onto storage section 16. The storage section 16 may be an internal fixed memory or removable memory device. As examples for the latter, smart media, micro memory card and micro drive can be mentioned, but not limited to those. Memory capacity is favorably 32 MB or more, or more favorably 64MB or more.

[0012]

Print condition included in the order request information includes at least one of a printing method; a print size and the number of prints for each digital image to be printed. As the printing method, it is possible to specify a printing medium such as a glossy paper or a plain paper in addition to glossy or mat color paper print, ink jet print and the creation of a transmission type film.

[0013]

If a mobile telephone and a digital camera are integrated, an interface portion of a digital camera can be utilized as the interface section 11, and an internal

memory of digital camera can be utilized as the storage section 16.

[0014]

Fig. 2 is a diagram showing the schematic structure of a print service system according to the invention using the mobile telephone. A print order receiving server 5 is connected to a network 4 including a mobile telephone service network for mutually connecting base stations, and a plurality of print servers 6-1, 6-2 and 6-n are connected to the print order receiving server 2. The print server is provided in a service shop or a laboratory which carries out a print processing based on digital image information and serves to cause one or more printers to carry out a predetermined printing processing. In the drawing, three print servers are shown and the number of the print servers is not restricted to three.

[0015]

A user who requires a digital image photographed by a digital camera to be printed fetches digital image information to the mobile telephone 1 and transmits digital image information and order request information to be printed to the print order receiving server 5 through the base station 3 and the network 4. The order request information includes print condition information for specifying at least one of a printing method, a print

size and the number of prints for each digital image to be printed. A mobile telephone number is utilized for the identification information of the user.

[0016]

When the digital image information and the print condition information are received, the print order receiving server 5 transmits digital image information to be printed to a print server to be a printing destination according to the print condition. More specifically, the digital image information is transmitted to the print server to be the printing destination provided with a printer according to the print condition. In the case in which the print processing can be carried out in a plurality of printing destinations, a printing destination which is the closest to a delivery destination previously registered for a created print is selected. When transmitting the print image information and the print condition to the print server, delivery information required for delivery such as the name of a print ordering person and information about a registered delivery destination are also transmitted. Moreover, a different printing destination may be selected for each digital image.

[0017]

At the printing destination, an order print created

based on the information transmitted to the print server is delivered to the registered delivery destination which is transmitted. A request for the delivery may be given to a distributor. After the delivery is completed, it is desirable that a printing charge is added to a telephone charge and is thus collected.

[0018]

Fig. 3 shows the schematic structure of the print order receiving server. The print order receiving server 5 comprises a control section 51, a storage section 52, a file device 53 and a communicating section 54. The control section 51 serves to control the whole operation of the print order receiving server 5 and, more specifically, is mainly constituted by a processor for operating according to a program stored in the storage section 52. The storage section 52 serves to store the program and various data for controlling the operation of the print order receiving server 5 and is used as a temporary saving region for the digital image information and order request information which are transmitted from the mobile telephone and a work area of the processor. The file device 53 holds at least a printing destination information table and an ordering person table. The communicating section 54 serves to control transmission and receipt to and from the network 4 and the print servers

6-1, 6-2 and 6-n.

[0019]

The printing destination information table held in the file device 53 records a print throughput of the printing destination and delivery region information corresponding to the printing destination or the print server. The print throughput includes a printing method capable of carrying out receipt, a print size and their processing speeds. The ordering person table records the ID of a mobile telephone owner previously registered as an order requestor, the name of the owner and delivery destination information corresponding to each other. The ID can utilize a telephone number. Moreover, the print ordering person using the mobile telephone may record a personal identification number for confirming a true owner together. The ordering person table is created by registering a print order when the mobile telephone is purchased. While the file device 53 is provided in the order receiving server 5 in the drawing, it may be provided on the outside of the server 2 and may be connected directly or through the network.

[0020]

Next, a flow for carrying out a print order by utilizing the mobile telephone according to the first embodiment of the invention will be described with

reference to Fig. 4.

[0021]

A user who gives a print order for a digital image by using a mobile telephone previously registers a delivery destination for a created print when making the contract of a mobile telephone. In the case in which a digital image photographed by means of a digital camera is to be printed, the image recording medium 2 recording digital image information is connected to the interface section 51 of the mobile telephone 5 (step 101), and the mobile telephone 1 is set to print order mode. Then, an image based on the digital image information is displayed on the display section 14 to select an image for which a print order is to be given (Step 103), and at least one of a printing method, a print size and the number of prints for each digital image to be printed is input as a print condition (Step 104). A print condition input is carried out by sequentially displaying at the display section 14 alternatives to each item to be inputted, followed by a selection from the alternatives using ten-keys in the input section 12, etc. For example, in a case a printing method is to be inputted, a screen shown in Fig. 5 is displayed at the display section 14. In the case in which the same print condition is to be selected for a plurality of selected images, the print condition

may be input collectively after the selection of an image. Further, after inputting the print condition, a total of print fee may be displayed.

[0022]

Next, a connection to the print order receiving server 5 is carried out based on a predetermined telephone number (Step 105). The order receiving server 2 confirms the telephone number of an ordering person which is automatically received by referring to the ordering person table of the file device 53 (Step 106), and a response is given when the order receipt can be carried out (Step 107). At this time, furthermore, a personal identification number may be required to be input. In the case in which the telephone number is not registered in the ordering person table, a response thereof is given and the process is ended. In the case in which the mobile telephone number is not utilized as an ordering person ID, an instruction for transmitting an ID is given after the connection and confirmation is carried out.

[0023]

The user transmits image information and print condition information after receiving a receipt enable response is received (Step 108). At this time, request information other than the print condition, for example, delivery time specification information may be

transmitted. Request information except print condition is also input according a display of the display section 14. The order receiving server 5 receiving the information about an image to be printed and the print condition information transmits a receipt completion response to the mobile telephone 1 (Step 109) and the communication is thus ended. It is also possible to use such a structure that order information can be transmitted to the mobile telephone 1 together with the receipt completion response and the user can confirm the contents of the order. In order to decrease a time required for the communication, the selection of an image and the input of the print condition are carried out in advance.

[0024]

After the communication is completed, the order receiving server 5 refers to the printing destination information table of the file device 53 and selects a printing destination according to the print condition (Step 110). Then, delivery information required for the delivery such as the name of a print ordering person and information about a registered delivery destination which are acquired from the ordering person table of the file device 53 are transmitted together with the received image information and print condition to the print server to be the selected printing destination (Step 109).

[0025]

At the printing destination, the printing process is carried out based on the image information and the print condition which are transmitted to the print server (Step 112), and an order print thus created is delivered to the registered delivery destination which is transmitted (Step 113). A request for the delivery may be given to a distributor. When the delivery is completed, a delivery completion notice is transmitted to the order receiving server 2 by using the print server or another means (Step 114).

[0026]

The order receiving server 5 receiving the delivery completion notice carries out an accounting process of a print charge. While a method of adding the charge to a telephone charge is convenient for the accounting, another bank account or a credit settlement may be selected in advance. In the case of other methods, a bank account number is previously recorded in the ordering person table.

[0027]

In the embodiment, since a request for a print order can be easily given at a moving destination, a necessary print can be acquired immediately.

[0028]

(Second Embodiment)

In a second embodiment of the invention, it is possible to specify a method of receiving a print when giving a request for a print order. While the structure of a mobile telephone is basically the same, a program to be stored in storage sections 16 and 52 of a mobile telephone 1 and an order receiving server 5 and information to be previously held in a file device 53 are different. In the second embodiment, the file device 53 further holds a print service shop capable of carrying out delivery at the store, a service shop table to which region information thereof corresponds, and a delivery table in which a print service shop corresponds to a printing destination capable of carrying out delivery to the print service shop. The print service shop includes a convenience store and a general DP agency in addition to a service shop for carrying out a printing process. Further, the mobile telephone 1 receives print service shop candidates, retained in the service shop table, when making order request information, displays the print service shop candidates on the display section 14 to prompt a user for selection.

[0029]

A flow for giving a print order by utilizing the mobile telephone according to the second embodiment of

the invention will be described with reference to Fig. 5.

[0030]

Since the procedure for connecting of the image storage medium, setting mode, selecting image, inputting a print condition, carrying out a connection to the print order receiving server 5 and confirming a telephone number when giving a print order for a digital image by utilizing the mobile telephone 1 is the same as the flow of Fig. 4, description will be omitted.

[0031]

In the case in which an order can be received from the mobile telephone 1 according to the confirmation of the telephone number, a receipt enable response is sent and an instruction for specifying a method of receiving a print is given (Step 207). In response to the instruction, a user specifies and transmits the receiving method (Step 208). As the receiving method, it is possible to select a method of receiving a print at a service shop or delivery to a previously registered delivery destination.

[0032]

The order receiving server 5 decides the receiving method thus received (Step 209). If the delivery to a previously registered delivery destination is decided,

an instruction for transmitting image information and a print condition is given to the mobile telephone 1 (Step 210). A subsequent flow is the same as the flow at and after the step 108 of Fig. 4.

[0033]

If the result of decision obtained at the Step 209 is the receipt at a service shop, the order receiving server 5 gives an instruction for transmitting the print condition to the mobile telephone 1 (Step 211). After the print condition transmitted from the mobile telephone 1 (Step 212) is received, the order receiving server 5 presents a service shop capable of carrying out delivery in a predetermined region including the position of the mobile telephone 1 giving an order as receiving destination information to the mobile telephone 1 (Step 213). In the case in which the information about the position of the mobile telephone 1 can be acquired through a mobile telephone service network, it is utilized. In the case in which the same information cannot be acquired, region selection information is transmitted to the mobile telephone 1 to cause the user to carry out selection. The mobile telephone 1 displays given service shop candidates at display section 14 (step 214) and wait for user's selection. If necessary, the service shop candidate may be displayed as an existing location of the shop on

a map. In the case in which the print is to be received in a place other than the presented service shop, the user selects another region. A service shop corresponding to a region is selected with reference to the service shop table of the file device 53.

[0034]

When the user selects a receiving destination and transmits the receiving destination together with image information (Step 215), the order receiving server 5 transmits a receipt completion response to the mobile telephone 1 (Step 216) and the communication is then ended. In the same manner as in the example of Fig. 4, order information may be transmitted to the mobile telephone 1 together with the receipt completion response.

[0035]

After the communication is ended, the order receiving server 5 refers to the printing destination information table and the delivery table in the file device 53 and selects a printing destination corresponding to the print condition and the specified receiving destination information (Step 217). Also in this case, it is also possible to select a printing destination which is varied for each digital image depending on an order in the same manner as in Fig. 4. Then, information required for the receipt such as information about a

receiving destination (delivery destination service shop) and the name of a print ordering person acquired from the ordering person table of the file device 53 are transmitted as delivery information together with the received image information and print condition to the print server to be the selected printing destination (Step 218).

[0036]

At the printing destination, a printing process is carried out based on the image information and the print condition which are transmitted to the printer server (Step 219), and a created order print is delivered to a delivery destination service shop which is transmitted (Step 220). In the case in which the printing destination is coincident with the receiving destination, it is a matter of course that the delivery is not required. A request for the delivery may be given to a distributor. When the delivery is completed, the printing destination or the delivery destination service shop transmits a delivery completion notice to the order receiving server 5 by using the print server or another means (Step 221). The service shop waits for the user to come over, and transmits a delivery completion notice to the order receiving server 5 by using the print server or another means when the print delivery is completed.

[0037]

After the image information and the print request information are transmitted to the printing destination, the order receiving server 5 waits for the delivery completion notice from the receiving destination service shop (Step 222) and carries out an accounting process if the completion notice is given (Step 223). The accounting process is carried out in the same manner as in Fig. 4.

[0038]

In the embodiment, since the receipt can be carried out at a service shop close to a moving destination, a necessary print can be acquired more immediately.

[0039]

(Third Embodiment)

In a third embodiment of the invention, a method of paying a print charge can be specified when giving a print order. Although the basic structure of a system is the same as that of each of the first and second embodiments, a method of payment is transmitted together when request information such as image information and a print condition are to be transmitted. As the method of payment, it is possible to select a previously specified method such as telephone charge addition payment, a method of carrying out payment simultaneously with receipt at

a receiving destination, and a method of carrying out payment during delivery to a specified destination.

[0040]

(Fourth Embodiment)

In a fourth embodiment of the invention, a request for saving the transmitted image information is sent when a print order is given. As a saving destination, it is also possible to select a file device 53 of an order receiving server 5 or another file device (not shown), or a file device which is accessible through a network, for example, a file device in another server connected to a network 4 or to select a portable recording medium such as a CD-ROM or a DVD. When the portable recording medium is selected, the receiving method can also be specified.

[0041]

In the embodiment, it is possible to recycle a recorded medium of a recording medium during photographing through a digital camera at a moving destination.

[0042]

Moreover, while the delivery information is created by utilizing the ordering person table previously provided in the order receiving server in the first to fourth embodiments, it is also possible to employ such a structure that the name of an ordering person and delivery

destination information are transmitted to the order receiving server at each time and the transmitted information is used. In that case, it is suitable that the name and the delivery destination information which are prestored in the storage section 16 of the mobile telephone are selectively transmitted.

[0043]

[Effect of the Invention]

As is apparent from the above description, with using the mobile telephone of the invention, a print order for a digital image photographed at a moving destination can easily be given at the moving destination and a necessary print can be acquired immediately.

[Brief Description of the Drawings]

Fig. 1 is a diagram showing the schematic structure of a mobile telephone capable of giving a print order according to the invention,

Fig. 2 is a diagram showing the schematic structure of a print service system to be used for the mobile telephone according to the invention,

Fig. 3 is a diagram showing the schematic structure of a print order receiving server,

Fig. 4 is a flow chart showing a print order utilizing a mobile telephone according to a first embodiment,

Fig. 5 is a diagram showing an example of display

of a display section at the time of the input of a print condition, and

Fig. 6 is a flow chart showing a print order utilizing a mobile telephone according to a second embodiment.

[Description of the Reference Numerals and Signs]

- 1 ... mobile telephone
- 2 ... image recording medium
- 3 ... base station
- 4 ... network
- 5 ... print order receiving server
- 6-1, 6-2, 6-n ... print server
- 10 ... receipt processing section
- 11 ... interface section
- 12 ... input section
- 13 ... communication interface section
- 14 ... display section
- 15, 51 ... control section
- 16, 52 ... storage section
- 17, 54 ... communicating section
- 18 ... call processing section
- 19 ... antenna
- 53 ... file device



FIG. 1

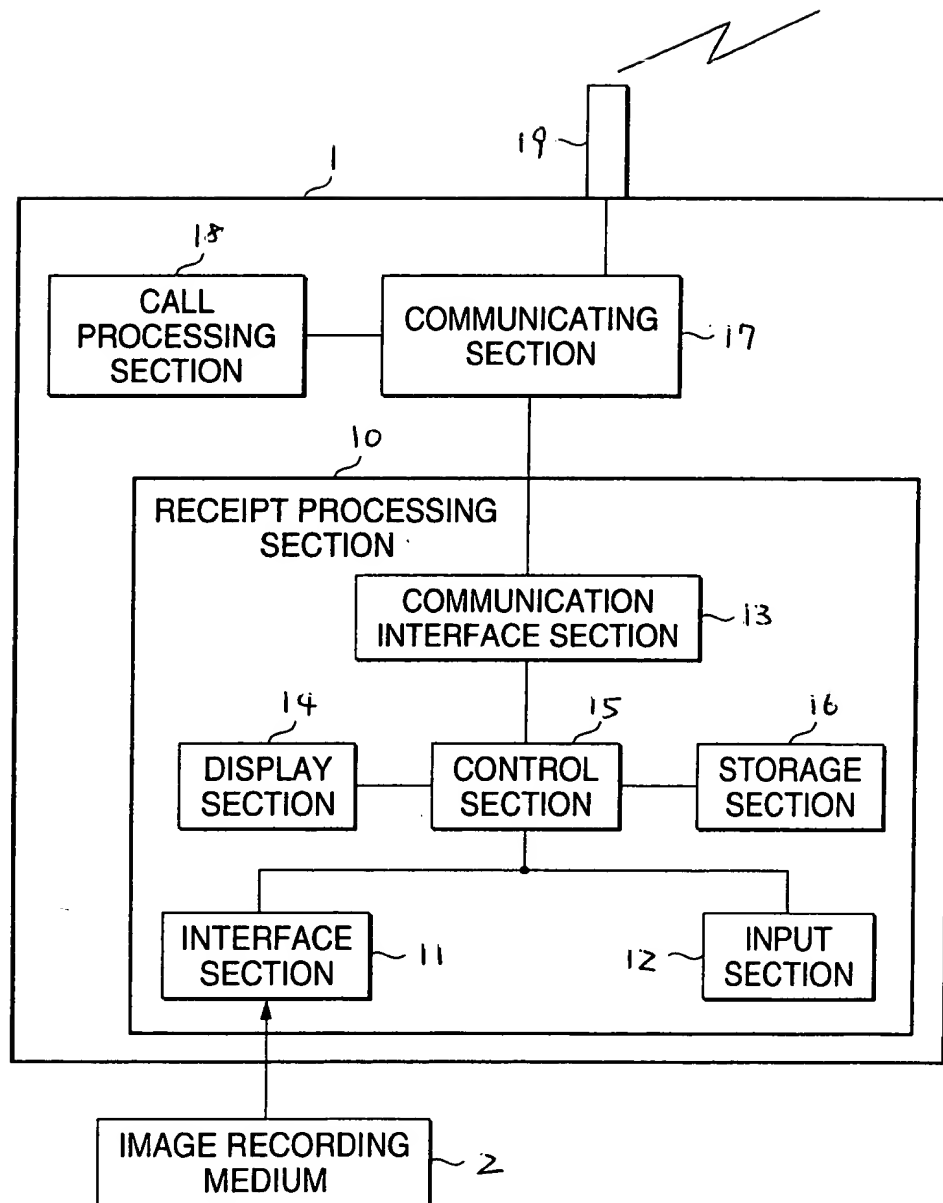




FIG. 2

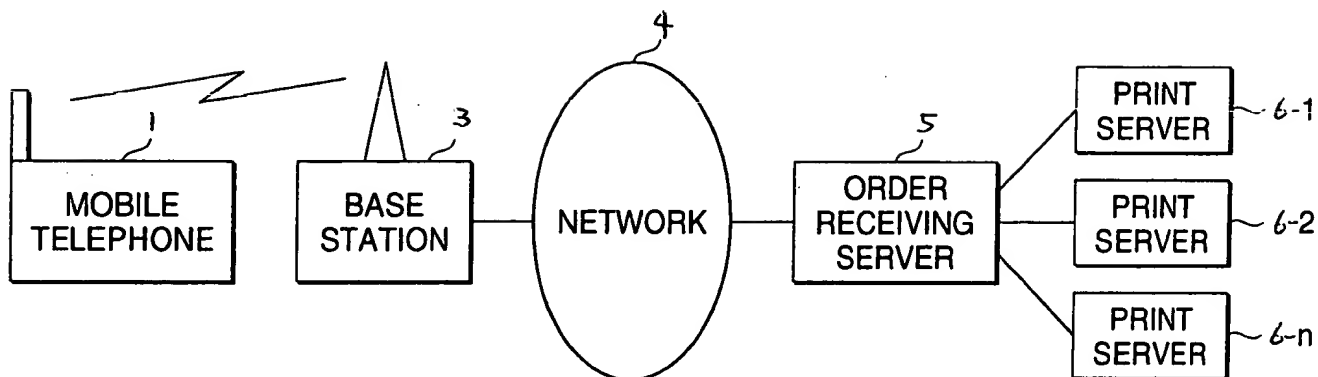


FIG. 3

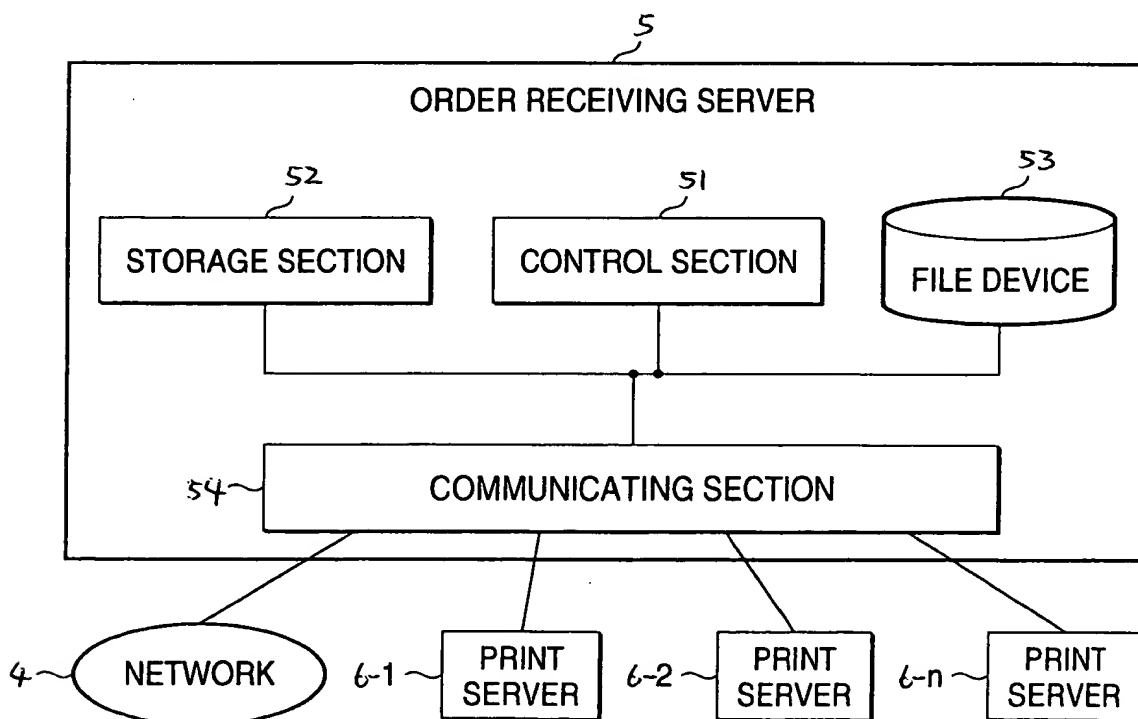




FIG. 4

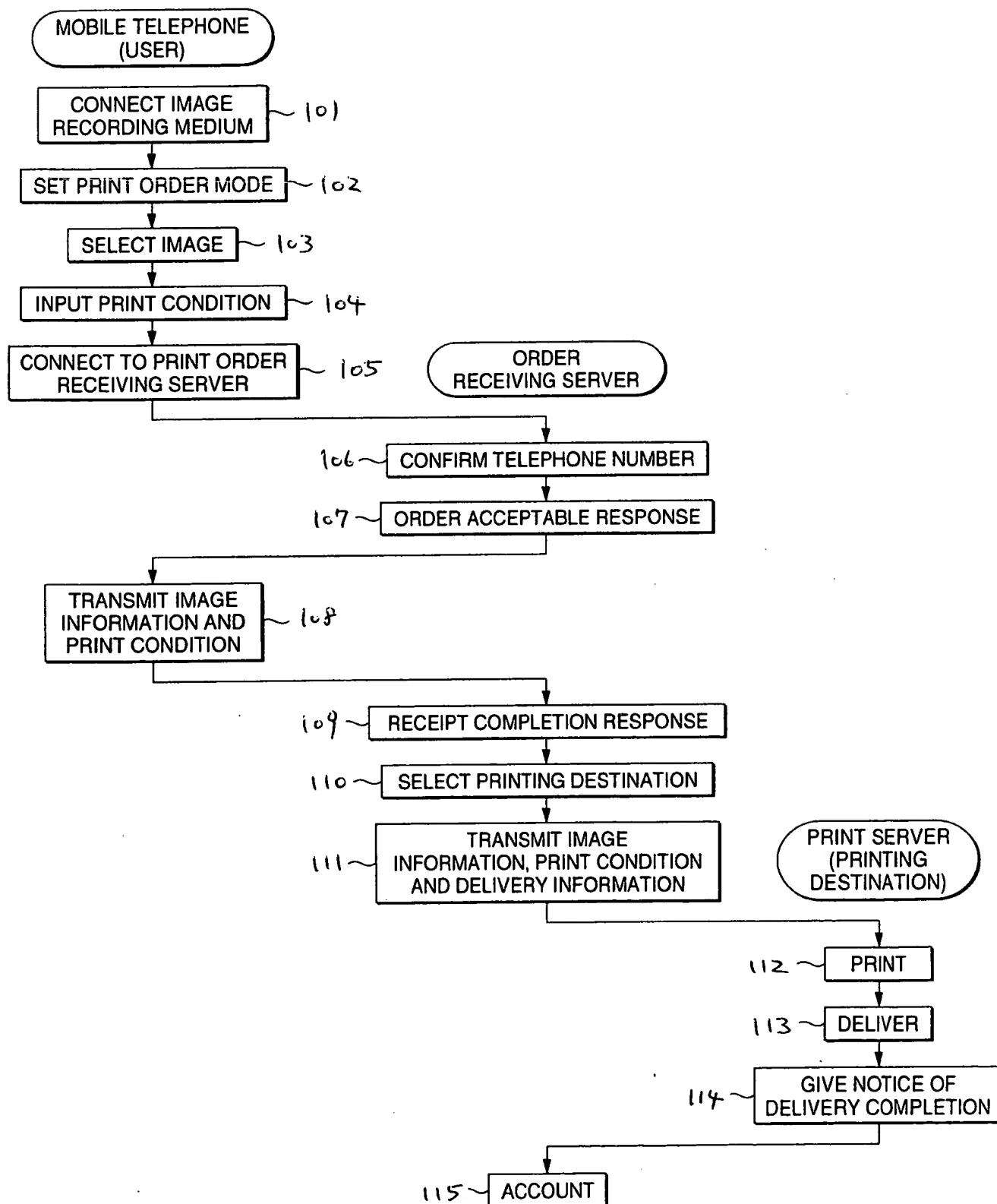




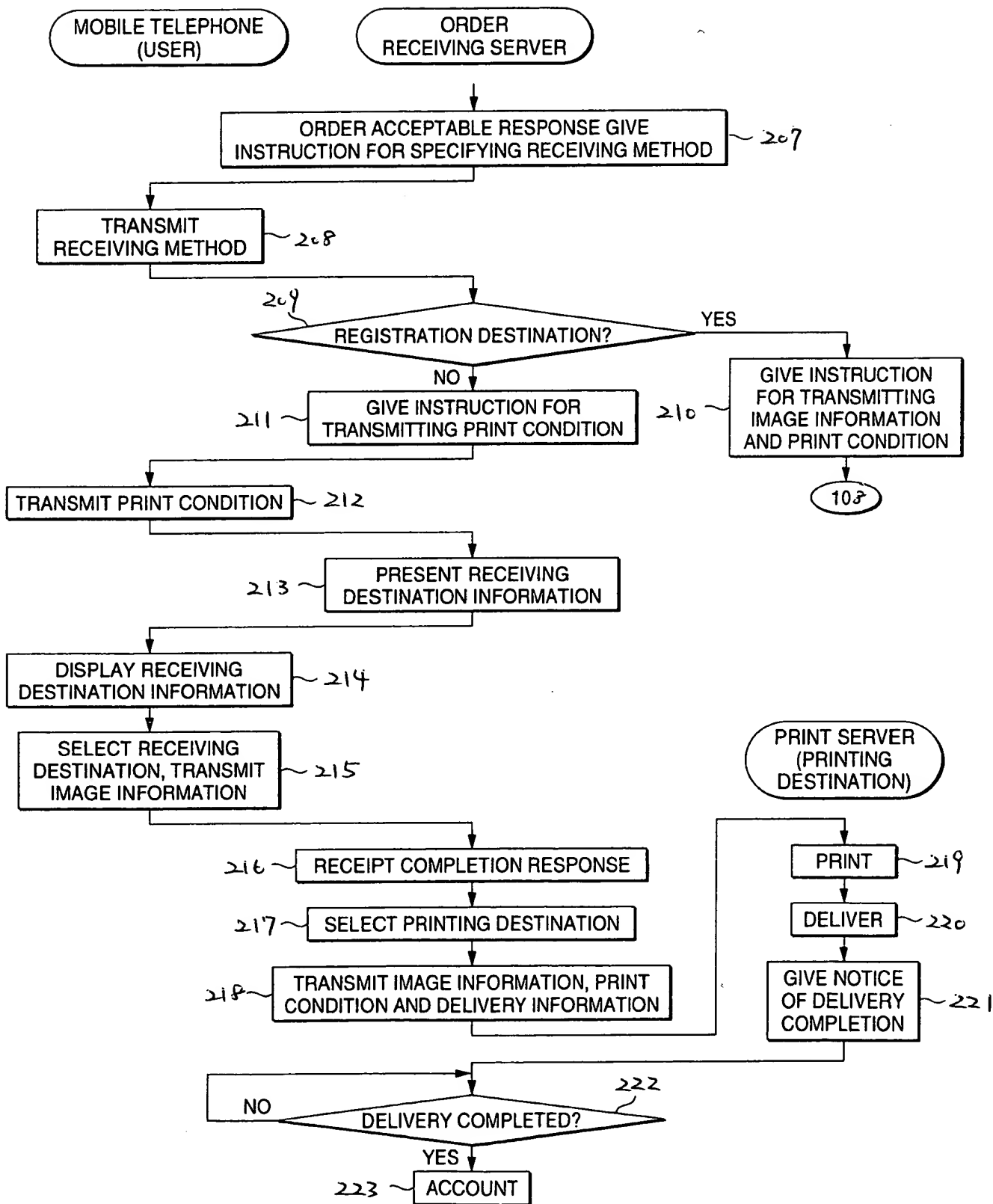
FIG. 5

SELECT PRINTING METHOD

1. COLOR PAPER (GLOSSY)
2. COLOR PAPER (MAT)
3. INK JET (GLOSSY)
4. INK JET (PLAIN PAPER)
5. D2T2



FIG. 6





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[Designation of Document] Abstract

[Abstract]

[Problem] It is an object to provide a mobile telephone capable of easily giving, from a moving destination, a print order of a digital image photographed at the moving destination.

[Means for Resolution] A mobile telephone 1 has a call processing section 18 for carrying out an ordinary call processing, a communicating section 17, an antenna section 19, and a receipt processing section 10 for carrying out a print order receipt processing. When ordering prints utilizing the mobile telephone 1, a digital image to be printed are read into storage section 16, then create order request information including print condition for specifying a print condition for each digital image by utilizing input section 12, display section 14 and control section 15. The mobile telephone 1 transmits a digital image information and an order request information through a communication section.

[Selected Drawing] Fig. 1